

NAME _____

DATE _____

Module 4 Solving Problems Using Linear Equations of One Variable
Lesson 2 Solving Consumer/Business Problems Using Equations of One Variable

independent practice

Solve.

1. Carlos earns \$17.50 per hour. How many hours did Carlos work if he earned \$568.75?

2. A handyman charges \$25 for a service call, plus \$30 per hour. How many hours did the handyman work if his total charge was \$92.50?

3. The sum of two consecutive integers is 47. What are the two integers?

4. The sum of three consecutive odd integers is -33. What are the three integers?

5. A business must send 3% of its employees to a seminar. How many employees does a company have if it sends 15 employees?

6. A company donates 4% of its profit to charity. What was the company's profit if it donated \$2,020 to charity?

Journal

- A student represented three consecutive odd integers as n , $n + 1$, and $n + 3$. Explain her mistake.
- A student was given the problem, "The sum of two consecutive integers is 23." He wrote and solved the equation $x + x + 1 = 23$. The student got $x = 11$ as the solution, and stated that 10 and 11 are the integers. Explain his mistake.
- Employees at a clothing store get a 20% discount on their purchases. To calculate what they will pay for a purchase, they can multiply the regular price by 0.8. Explain why this method works.
- The owner of a jewelry shop calculates the total price, including a 6% sales tax, by multiplying the regular price by 1.06. Explain why this method works.
- A store uses a 100% markup on all its goods. What does this mean?

Cumulative Review

Solve.

1. $3x - 4 = 17$ _____
2. $2x + 9 = 15$ _____
3. $-13 = 11x + 9$ _____
4. $9 - 4x = 6$ _____
5. $\frac{3}{4}x + 7 = 1$ _____
6. $3 - 2x = -9 + 2x$ _____
7. $x + x + x = 4.5$ _____
8. $\frac{1}{2}(12x) = 30$ _____
9. $4x + 3(x - 2) = 8$ _____
10. $25(x + 2) = 55x$ _____

Calculator Problems Using the Percent Key

A business must send 3% of its employees to a seminar. How many employees does a company have if it sends 15 employees?

To solve the problem above using a scientific calculator use the following keystrokes.



Step 1: press 1

Step 2: press 5

Step 3: press $\div$

Step 4: press 3

Step 5: press the 2nd key

Step 6: press the % key

Step 7: press the = key

So, the company has 300 employees.

Use a scientific calculator to solve the following problems.

1. Shontisha earns 6% commission selling cellular phones. Her commission last week was \$94.26. What was the amount of her sales?

2. The original price of a CD is \$17.99. A store is having a CD sale, each CD is 25% off. What is the cost of a CD, excluding tax?

3. A company donates 2% of its yearly profit to charity. The company's yearly profit is \$64,000. What amount did the company donate to charity?

4. Taylor used a 15% off coupon to buy a jacket, she paid \$59.50. What was the price of the jacket before the discount?
